

REMARKS

Reconsideration is respectfully requested.

Claims 1-21 are pending in the application. Claim 1 has been amended. Claims 22-42 have been added to the application. Claims 1-20 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,991,078 to Yoshitake et al. ("Yoshitake"). Claims 1-3, 8, 9, 11, 14-17, 19, and 21 have been separately rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,138,604 to Umeda et al. ("Umeda"). Applicants respectfully traverse these rejections below. However, Claim 1 has been amended to more clearly define the claimed invention.

New Claim 22 is substantially similar to amended Claim 1, except that the limitation of interstitial elements being "connected smoothly" to background elements, which was previously included in Claim 3, has been incorporated into the claim. Therefore, new independent Claim 22 introduces no new matter to the claims. Dependent claims 23-42 are substantially identical to dependent claims 2-21 except that the dependencies have been amended to depend on independent claim 22. Accordingly, claims 22-42 introduce no new matter to the claims but merely include the previously claimed elements in an amended form.

In paragraph 2, the Examiner rejected claims 1-20 under 35 U.S.C. §102(e) as being anticipated by Yoshitake. Yoshitake is directed a display medium that represents a display pattern using the contours of diffraction gratings. The display patterns in the diffraction gratings move smoothly as the visual reference point moves. Yoshitake further discloses multiplexing multiple display patterns using fine mesh pixels.

The present invention is directed generally to a diffractive device having background diffractive structural elements and interstitial diffractive structural elements. The diffractive action of the background elements is modulated by the interstitial elements. The combination of background elements and interstitial may occupy a variety of configurations. In one embodiment, the device includes a plurality of interstitial diffractive structural elements, wherein each of the plurality of interstitial elements are interspersed at least partially longitudinally adjacent to one or more of the background elements. In another embodiment, the device includes a plurality of interstitial diffractive structural elements, wherein at least some of the

plurality of interstitial elements are smoothly connected to one or more of the background elements.

While Yoshitake generally describes a device having diffraction gratings, Yoshitake fails to teach or disclose all of the elements of independent Claim 1. The diffraction gratings in Yoshitake, proposed interstitial elements A and A', are centrally located as a group within a second set of diffraction gratings, proposed background elements B and B'. Each of the alleged interstitial elements of Yoshitake is not "interspersed at least partially longitudinally adjacent to one or more of the background elements," as claimed. Instead, most of the diffraction gratings are adjacent to other gratings of the same type and not longitudinally adjacent to a background element. Therefore, Yoshitake fails to teach or disclose all of the elements in Claim 1. Accordingly, it is respectfully submitted that Claim 1 is not anticipated by Yoshitake under 35 U.S.C. §102(e).

In numbered paragraph 3, Claims 1-3, 8, 9, 11, 14-17, 19, and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Umeda. Umeda is directed to an optical recording medium that can incorporate a decorative feature onto the surface of the optical recording medium. A diffraction grating or hologram may be superimposed over the optical recording medium.

While Umeda generally describes a device that may incorporate diffraction gratings, Umeda fails to teach or disclose all of the elements of independent Claim 1. Applicants respectfully submit that the background diffractive structure elements and the interstitial elements have been incorrectly identified. The elements identified in the rejection, i.e., (2a, 2b), are not interstitial diffractive elements but are an optical recording track and an optical guide track, respectively, on an optical recording device (see col. 4, lines 61-64). Furthermore, these optical recording tracks are not "interspersed at least partially longitudinally adjacent to one or more of the background elements." While diffraction gratings, identified as 5a and 5b, are provided, they are also not interspersed as recited in the claim. Accordingly, it is respectfully submitted that Claim 1 is also not anticipated by Umeda under 35 U.S.C. §102(e).

New claim 22 is directed to a diffractive device including "a plurality of interstitial diffractive structural elements; wherein at least some of the plurality of interstitial elements are smoothly connected to one or more of the background elements. . . ." The emphasized language, previously included in claim 3, has been converted into an independent claim. Neither Yoshitake

nor Umeda teach or disclose this claimed configuration of interstitial and background elements. Accordingly, it is respectfully submitted that new Claim 22 is allowable over the cited prior art references.

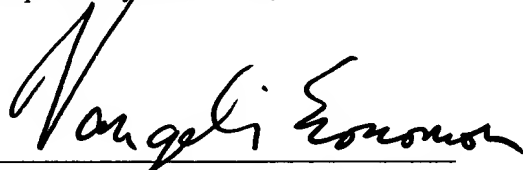
Claims 2-21 are dependent on independent Claim 1. Dependent Claims 2-21 are allowable because they depend on allowable base claims and for the additional limitations included in each of the dependent claims. Accordingly, Claims 2-21 are also allowable over the cited references.

New Claims 23-42 are dependent on independent Claim 22. Dependent Claims 23-42 are allowable because they depend on allowable base claims and for the additional limitations included in each of the dependent claims. Accordingly, Claims 23-42 are also allowable over the cited references.

In view of the foregoing amendments and remarks, it is believed that the claims are now in condition for allowance. Attached to this response as an Appendix is a "MARKED-UP VERSION OF CLAIM 1 SHOWING CHANGES MADE" for showing the amendments made to Claim 1. Should there exist any minor issues that can be easily resolved by a telephone conference, the Examiner is requested to call the Applicants' undersigned representative at the number provided below.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter.

Respectfully submitted,



Vangelis Economou, Reg. No. 32,341
c/o Ladas & Parry
224 South Michigan Avenue, Suite 1200
Chicago, IL 60604
(312) 427-1300

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MARKED-UP VERSION OF CLAIM 1 SHOWING CHANGES MADE

1. (Amended) A diffractive device having a surface relief structure which, when illuminated by a light source, generates one or more diffraction images which are observable from particular ranges of viewing angles around the device, including:

- a region of diffractive structural elements, the region having a length and a width;
- background diffractive structural elements distributed over the length of the region, a plurality of the background elements having a longitudinal extent which extends throughout the width of the region; and
- a plurality of interstitial diffractive structural elements;

wherein each of the plurality of interstitial elements are interspersed [between] at least partially longitudinally adjacent to one or more of the background elements within the region such that the diffractive action of the background elements is modulated by the interstitial elements, with differing interstitial element configuration in differing parts of the surface relief structure producing differing diffraction effects in corresponding parts of the diffraction images.